

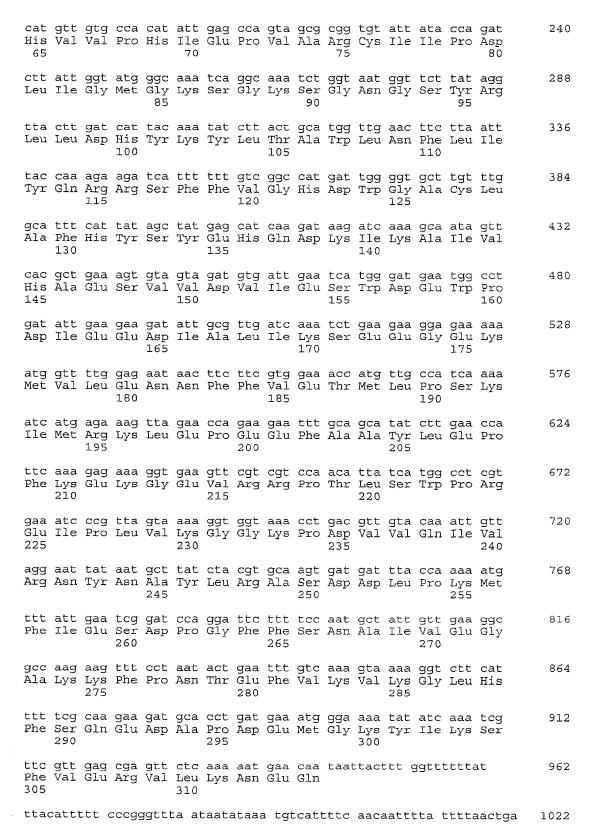


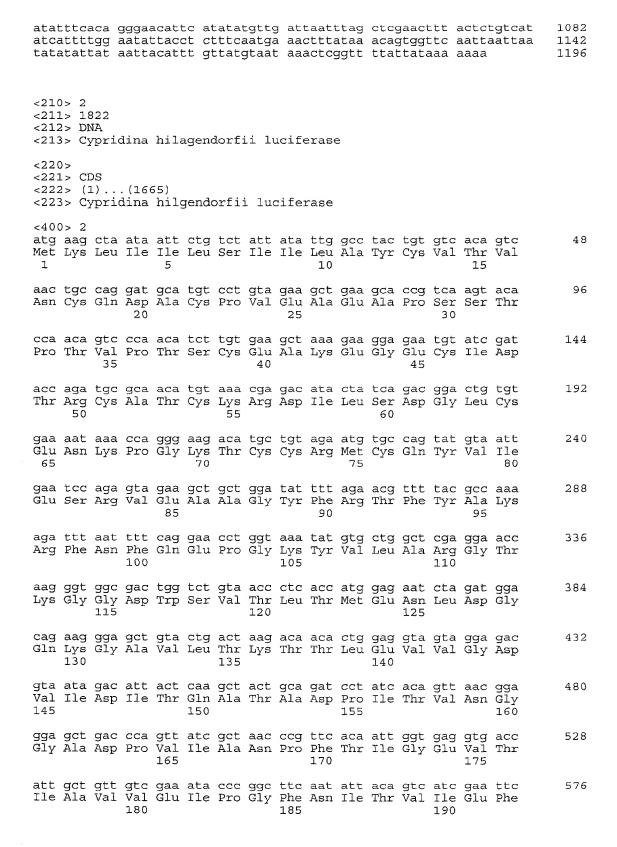
## SEQUENCE LISTING

<110> Bryan, Bruce Szent-Gyorgyi, Christopher Szczepaniak, William

<120> RENILLA RENIFORMIS FLOURESCENT PROTEINS, NUCLEIC ACIDS ENCODING THE FLOURESCENT PROTEINS AND THE USE THEREOF IN DIAGNOSTICS, HIGH THROUGHPUT SCREENING AND NOVELTY ITEMS

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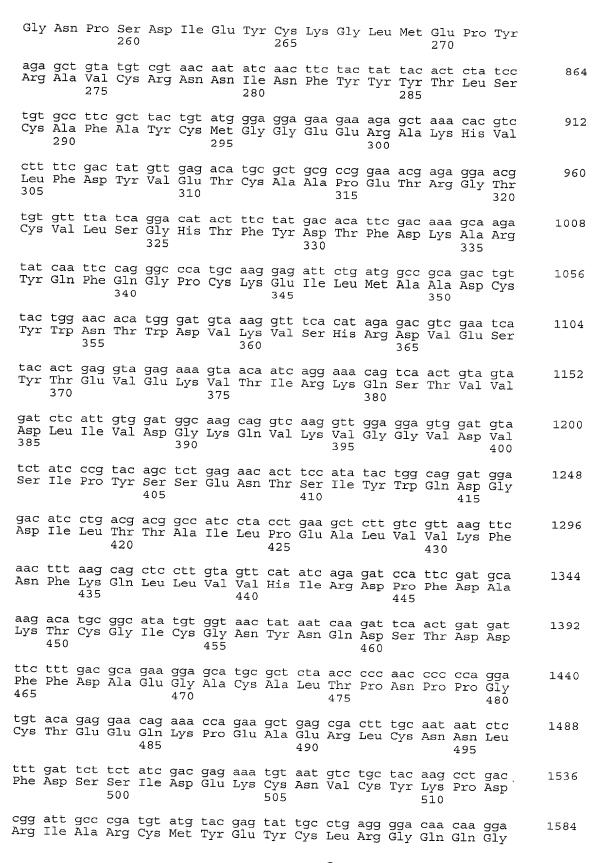
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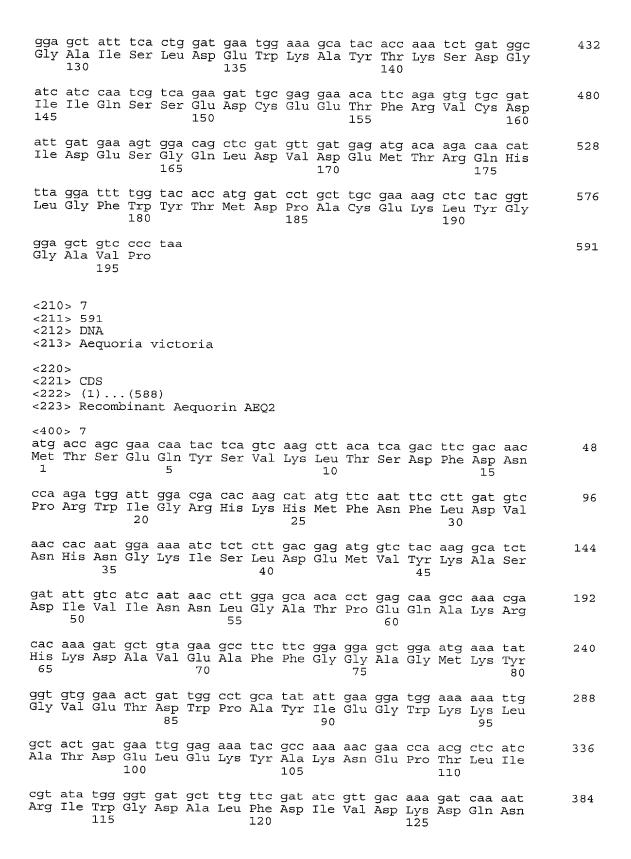


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	ctt gga gca aca cct gag Leu Gly Ala Thr Pro Glu 55 60		309
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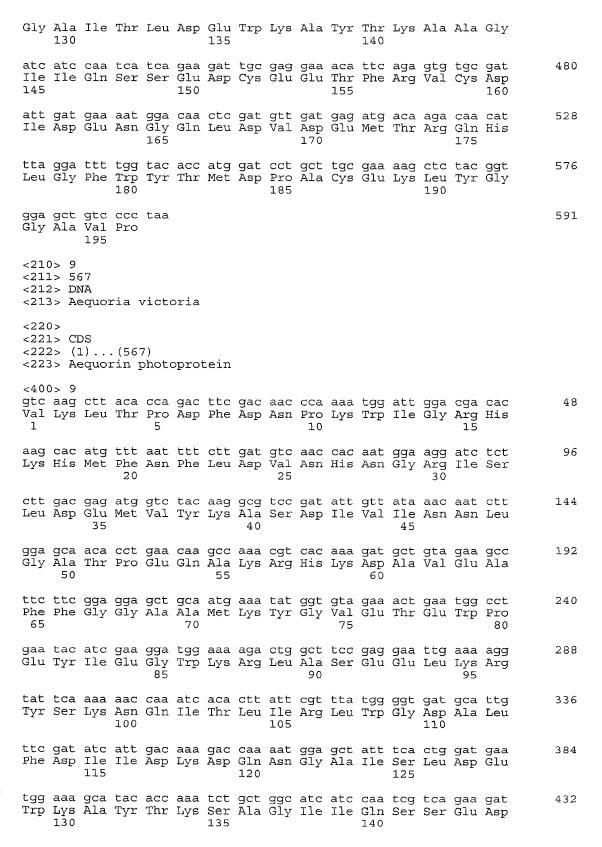
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ga† Asj	gaa Glu	a agt 1 Sei	gga Gl <sub>y</sub> 165	/ GII	a cto 1 Leu	gat Asp	gtt Val	gat L Asp 170	o GTI	g ato 1 Met	g aca	a aga r Arq	a caa g Glr 175	ı His	tta Leu	645
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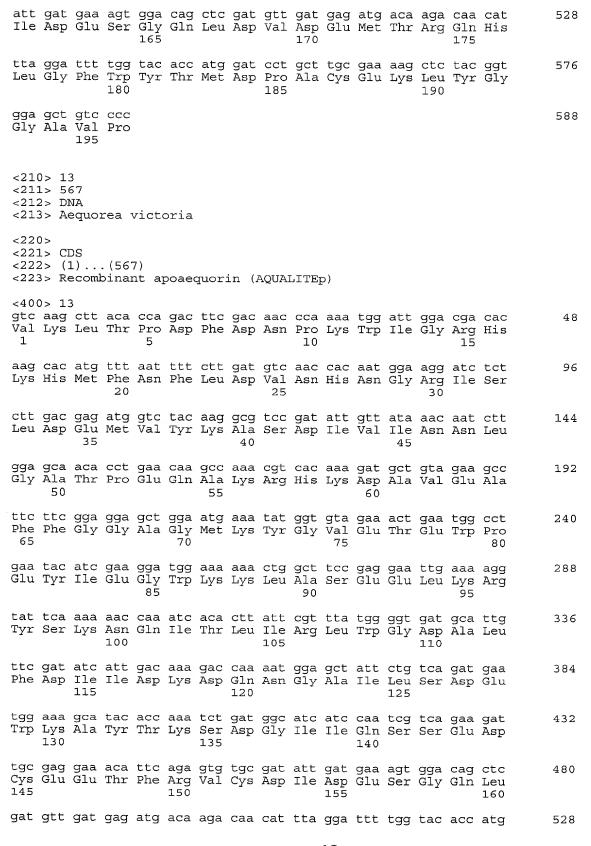
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gct Ala	act Thr	gat Asp	gaa Glu 100	ttg Leu	gag Glu	aaa Lys	tac Tyr	gcc Ala 105	aaa Lys	aac Asn	gaa Glu	cca Pro	acg Thr 110	ctc Leu	atc Ile	336
cgt Arg	ata Ile	tgg Trp 115	ggt Gly	gat Asp	gct Ala	ьeu	ttc Phe 120	gat Asp	atc Ile	gtt Val	gac Asp	aaa Lys 125	gat Asp	caa Gln	aat Asn	384
gga	gcc	att	aca	ctg	gat	gaa	tgg	aaa	gca	tac	acc	aaa	gct	gct	ggt	432



tgo Cys 145	GII	g gaa 1 Gli	a aca 1 Thr	tto Phe	aga Arg 150	y Val	j tgo . Cys	gat S Asp	att o Ile	gat Asp 155	Glı	a agt 1 Ser	gga Gly	a caç Glr	g ctc Leu 160	480
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aac Asn	cac His	aat Asn 35	gga Gly	agg Arg	atc Ile	tct Ser	ctt Leu 40	gac Asp	gag Glu	atg Met	gtc Val	tac Tyr 45	aag Lys	gcg Ala	tcc Ser	144
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atc Ile 145	atc Ile	caa Gln	tcg Ser	tca Ser	gaa Glu 150	gat Asp	tgc Cys	gag Glu	gaa Glu	aca Thr 155	ttc Phe	aga Arg	gtg Val	tgc Cys	gat Asp 160	480



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Asp Val Asp Glu Met Thr Arg Gln His Leu Gly Phe Trp Tyr Thr Met

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cat His	gtt Val	ttt Phe 30	aca Thr	atg Met	gag Glu	ggt Gly	tgc Cys 35	ggc Gly	aaa Lys	gly ggg	aat Asn	att Ile 40	tta Leu	ttc Phe	ggc Gly	387
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gct Ala 220	att Ile	gct Ala	caa Gln	Met	aca Thr 225	tct Ser	ata Ile	gga Gly	aaa Lys	cca Pro 230	cta Leu	gga Gly	tcc Ser	tta Leu	cac His 235	963
gaa Glu	tgg Trp	gtt Val	taa *	acac	agtt	ac a	ttac	tttt	t cc	aatt	cgtg	, ttt	catg	tca		1015
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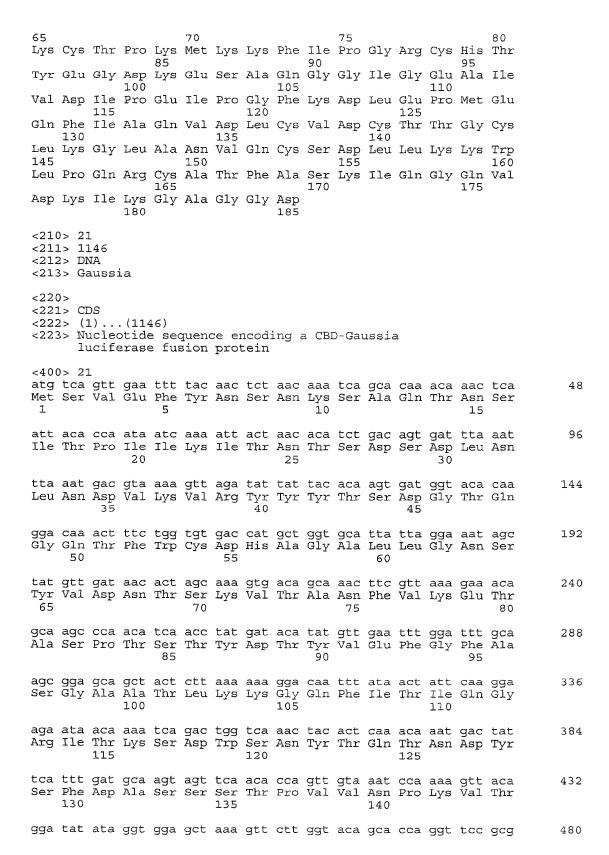
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aat go Asn Gl															342
ttc aa Phe Ly 105	aa cat ys His	ctt Leu	aat Asn	tta Leu 110	cca Pro	aag Lys	aag Lys	atc Ile	att Ile 115	ttt Phe	gtc Val	ggt Gly	cat His	gat Asp 120	390
tgg gg Trp Gl															438
atc as Ile Ly	aa gca ys Ala	gtt Val 140	gtt Val	cat His	gct Ala	gaa Glu	agt Ser 145	gta Val	gta Val	gat Asp	gtg Val	att Ile 150	gaa Glu	tcg Ser	486
tgg ga Trp As															534
gaa ga Glu Gl 17	lu Gly														582
atg tt Met Le 185															630
gct ta Ala Ty	at ctt yr Leu	gaa Glu	cca Pro 205	ttt Phe	aaa Lys	gag Glu	aaa Lys	ggt Gly 210	gaa Glu	gtt Val	cgt Arg	cgt Arg	cca Pro 215	aca Thr	678
tta to Leu Se															726
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gat tt Asp Le 25	eu Pro														822
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					cgt Arg											198
					atg Met 60											246
					tgc Cys											294
					gga Gly											342
					ata Ile											390
					ttg Leu											438
					tgc Cys 140											486
					tta Leu											534
					att Ile											582
	ggt Gly		taa *	taat	caata	aga a	atact	igcat	ta ad	ctgga	atgai	ga1	tatad	ctag		634
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1 Ala	Lys	Pro		5 Glu	Asn	Asn	Glu		10 Phe	Asn	Ile	Val	~ ~	15 Val	Ala	
Ser	Asn	Phe 35	20 Ala	Thr	Thr	Asp	Leu 40	25 Asp	Ala	Asp	Arg	Gly 45	Lys	Leu	Pro	
Gly	Lys 50		Leu	Pro	Leu	Glu 55		Leu	Lys	Glu	Met 60		Ala	Asn	Ala	
Arg		Ala	Gly	Cys	Thr		Gly	Cys	Leu	Ile		Leu	Ser	His	Ile	



Gly 145	Tyr	Ile	e Gly	gly	Ala 150	Lys	Val	. Leu	Gly	Thr 155	Ala	Pro	Gly	Ser	Ala 160	
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gct Ala	gct Ala	aaa Lys	tto Phe 180	GIU	cgc Arg	cag Gln	cac His	atg Met 185	Asp	agc Ser	cca Pro	gat Asp	ctg Leu 190	ggt Gly	acc Thr	576
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cgt Arg	ggt Gly	aaa Lys	ttg Leu	ccc Pro 245	gga Gly	aaa Lys	aaa Lys	tta Leu	cca Pro 250	ctt Leu	gag Glu	gta Val	ctc Leu	aaa Lys 255	gaa Glu	768
atg Met	gaa Glu	gcc Ala	aat Asn 260	gct Ala	agg Arg	aaa Lys	gct Ala	ggc Gly 265	tgc Cys	act Thr	agg Arg	gga Gly	tgt Cys 270	ctg Leu	ata Ile	816
tgc Cys	ctg Leu	tca Ser 275	cac His	atc Ile	aag Lys	tgt Cys	aca Thr 280	ccc Pro	aaa Lys	atg Met	aag Lys	aag Lys 285	ttt Phe	atc Ile	cca Pro	864
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Leu Asn Asp Val Lys Val Arg Tyr Tyr Tyr Thr Ser Asp Gly Thr Gln
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Gly Gln Thr Phe Trp Cys Asp His Ala Gly Ala Leu Leu Gly Asn Ser
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Tyr Val Asp Asn Thr Ser Lys Val Thr Ala Asn Phe Val Lys Glu Thr
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Ala Ser Pro Thr Ser Thr Tyr Asp Thr Tyr Val Glu Phe Gly Phe Ala
               85
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Ser Gly Ala Ala Thr Leu Lys Lys Gly Gln Phe Ile Thr Ile Gln Gly
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Arg Ile Thr Lys Ser Asp Trp Ser Asn Tyr Thr Gln Thr Asn Asp Tyr
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                          120
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Ser Phe Asp Ala Ser Ser Ser Thr Pro Val Val Asn Pro Lys Val Thr
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Gly Tyr Ile Gly Gly Ala Lys Val Leu Gly Thr Ala Pro Gly Ser Ala
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                                       155
Gly Leu Val Pro Arg Gly Ser Thr Ala Ile Gly Met Lys Glu Thr Ala
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Ala Ala Lys Phe Glu Arg Gln His Met Asp Ser Pro Asp Leu Gly Thr
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Asp Asp Asp Lys Met Gly Val Lys Val Leu Phe Ala Leu Ile Cys
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                                              205
Ile Ala Val Ala Glu Ala Lys Pro Thr Glu Asn Asn Glu Asp Phe Asn
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Arg Gly Lys Leu Pro Gly Lys Lys Leu Pro Leu Glu Val Leu Lys Glu
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Cys Leu Ser His Ile Lys Cys Thr Pro Lys Met Lys Lys Phe Ile Pro
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Gly Arg Cys His Thr Tyr Glu Gly Asp Lys Glu Ser Ala Gln Gly Gly
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Ile Gly Glu Ala Ile Val Asp Ile Pro Glu Ile Pro Gly Phe Lys Asp
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                                                          320
Leu Glu Pro Met Glu Gln Phe Ile Ala Gln Val Asp Leu Cys Val Asp
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                                                      335
Cys Thr Thr Gly Cys Leu Lys Gly Leu Ala Asn Val Gln Cys Ser Asp
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           340
                                                  350
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60 108

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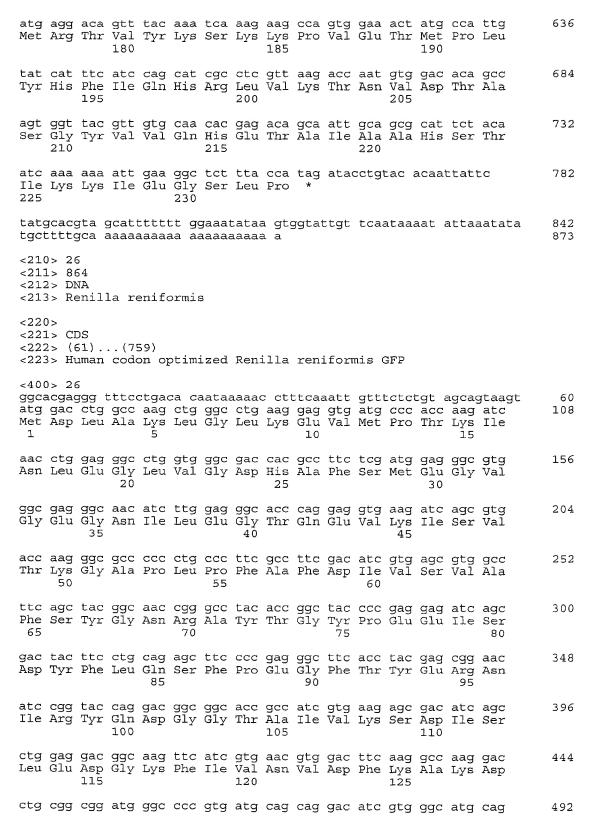
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gac tac ttc ctc cag tcg ttt cca gaa ggc ttt act tac Asp Tyr Phe Leu Gln Ser Phe Pro Glu Gly Phe Thr Tyr 85 90	gag aga aac 348 Glu Arg Asn 95
att cgt tat caa gat gga gga act gca att gtt aaa tct Ile Arg Tyr Gln Asp Gly Gly Thr Ala Ile Val Lys Ser 100 105	
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cca tcg tat gag tca atg tac acc aat gtc act tca gttPro Ser Tyr Glu Ser Met Tyr Thr Asn Val Thr Ser Val145150	
tgt ata ata gca ttc aaa ctt caa act ggc aag cat ttc Cys Ile Ile Ala Phe Lys Leu Gln Thr Gly Lys His Phe 165 170	act tac cac 588 Thr Tyr His 175
atg agg aca gtt tac aaa tca aag aag cca gtg gaa act Met Arg Thr Val Tyr Lys Ser Lys Lys Pro Val Glu Thr 180	
tat cat ttc atc cag cat cgc ctc gtt aag acc aat gtg Tyr His Phe Ile Gln His Arg Leu Val Lys Thr Asn Val 195 200 205	
agt ggt tac gtt gtg caa cac gag aca gca att gca gcg Ser Gly Tyr Val Val Gln His Glu Thr Ala Ile Ala Ala 210 215 220	cat tct aca 732 His Ser Thr
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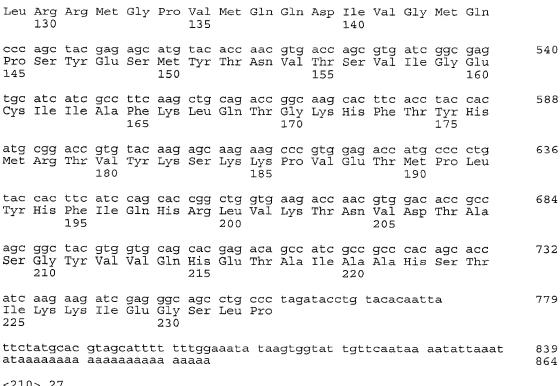
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aaa aaa att gaa ggc tct tta cca tag atatctatac acaattattc Lys Lys Ile Glu Gly Ser Leu Pro * 230														
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225 230

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Trp Ala Asp Cys Gly Pro Arg Phe Asp Ser Thr Gly Arg Asn Arg Cys
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Gln Val Gln Tyr Lys Asp Tyr Ala Tyr Lys Ser Cys Val Glu Val Asp
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50
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Tyr Thr Val Pro His Arg Lys Gln Val Pro Glu Cys Lys Gln Val Thr
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Asn Ile Val Glu Lys Asp Val Asp Phe Pro Thr Val Lys Thr Glu Cys
110 120

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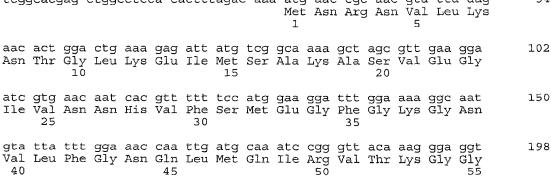
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150

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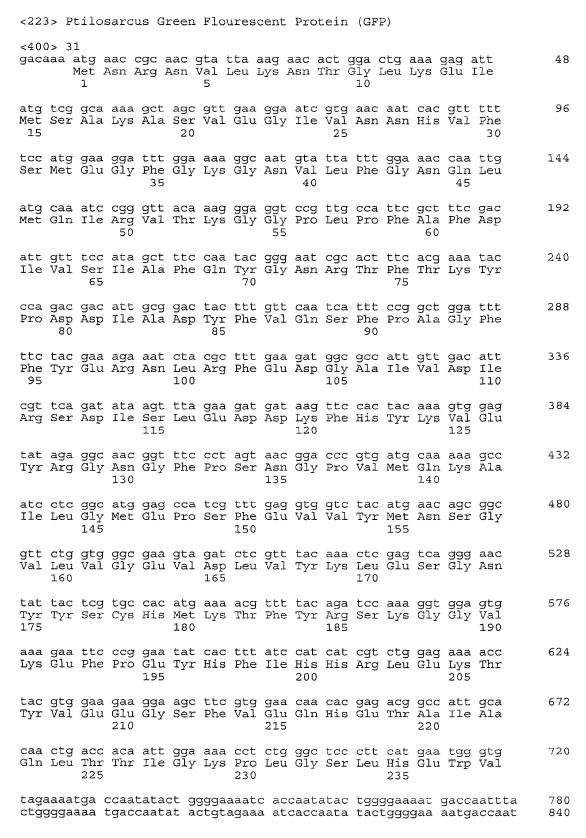


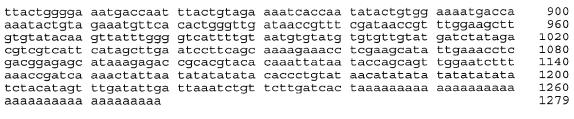


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	tcc Ser						taga	aaaat	ga (	ccaat	catao	ct g	gggaa	aacc	3	777
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<213> Ptilosarcus gurneyi

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<210> 33

225

<211> 233

<212> PRT

<213> Renilla Reniformis mutein

<400> 33

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Thr Thr Ile Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val

230

235



					₹.										
			100		_			105					110		
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Pro 145	Ser	Tyr	Glu	Ser	Met 150	Tyr	Thr	Asn	Val	Thr 155	Ser	Val	Ile	Gly	Glu 160
Cys	Ile	Ile	Ala	Phe 165	Lys	Leu	Gln	Thr	Gly 170	Lys	Asp	Phe	Thr	Tyr 175	His
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Ser	Gly 210	Tyr	Val	Val	Gln	His 215	Glu	Thr	Ala	Ile	Ala 220	Ala	His	Ser	Thr
Ile 225	qzA	Lys	Ile	Glu	Gly 230	Ser	Leu	Pro							